



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

July 17, 2012

Via E-mail

Christopher Bleck  
Chief Operating Officer  
OvaScience, Inc.  
800 Boylston Street, Suite 1555  
Boston, Massachusetts 02199

**Re: OvaScience, Inc.  
Registration Statement on Form 10-12G  
Filed April 11, 2012  
File No. 000-54647**

Dear Mr. Bleck:

We have completed our review of your filing. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or the filing and the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States. We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

/s/ Jeffrey Riedler

Jeffrey Riedler  
Assistant Director

cc: Lia Der Marderosian, Esq.  
WilmerHale  
60 State Street  
Boston, MA 02109